



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,954	07/10/2003	Hoi-Sing Kwok	016660-164	1065

7590 04/12/2005

James A. LaBarre
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER *

BARRECA, NICOLE M

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,954

Applicant(s)

KWOK ET AL.

Examiner

Nicole M. Barreca

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-40 is/are pending in the application.
- 4a) Of the above claim(s) 39 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-33, 37, 38 is/are rejected.
- 7) ☒ Claim(s) 34-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 20-38, in the reply filed on 4/23/2004 is acknowledged.
2. Claims 39-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/23/2004.

Priority

3. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence(s) of the specification or in an application data sheet by identifying the prior application by application number (37 CFR 1.78(a)(2) and (a)(5)). If the prior application is a non-provisional application, the specific reference must also include the relationship (i.e., continuation, divisional, or continuation-in-part) between the applications except when the reference is to a prior application of a CPA assigned the same application number.

Response to Amendment

4. The declaration under 37 CFR 1.132 filed 3/5/05 is sufficient to overcome the rejection of claims 20, 23, 25, 32-38 based upon the Kozenkov reference.

Claim Objections

5. Claim 32 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 32 recites, "said absorber comprises lyotropic liquid crystal", when claim 20 previously recited, "applying an isotropic absorber ... to produce a lyotropic liquid crystal".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 20-33, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunihiro (JP 10-333154, English translation from JPO).

8. Kunihiro discloses a method for orienting lyotropic liquid crystal. The orientation control of the lyotropic liquid crystal containing an isotropic solvent was not known until now [0003]. A photo-active molecule layer is orientated by diagonal irradiation or by irradiation with linear polarized light [0027]. A lyotropic liquid crystal is brought into contact with the orientated photo-active layer (abstract). Optically activated molecules used for the photo-alignment layer include aromatic azo-compounds [0010]-[0011]. The lyotropic liquid crystal is dissolved in a solvent [0031]. After the light orientation of the photosensitive layer, the LLC layer is heated. The lyotropic liquid crystal may change into an isotropic phase condition [0040]. The example teaches forming the photo-active molecular layer on a glass substrate and exposure using linearly polarized light through a photomask. The example also teaches using multiple liquid crystal solutions with

different colors and that the photo-alignment layer is exposed multiple times. The photomask may generate birefringence. Various displays may be formed by combining two or more polarizing plates [0040]-[0049].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunihiro.

11. Kunihiro is silent on the thickness of the absorber film and does not disclose that this layer has a thickness of 0.3 to 1.5 microns. It would within the ordinary skill of one in the art to determine the optimal film thickness of the absorber layer in the method Kunihiro by routine experimentation and to have a thickness of 0.3 to 1.5 microns, if required, because thickness is a result-effective variable, and the discovery of an optimum value of a result effective variable is ordinary within the skill of the art, as taught by *In re Boesch*, (617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

Allowable Subject Matter

12. Claims 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or suggest a method for photo aligning liquid crystals

in an isotropic phase as claimed wherein the photo alignable material is an organic azodye of the structure as shown in claim 34 or in formulas (1)-(3) of claim 35.

Response to Arguments

14. Applicant's arguments, see p.8, filed 1/12/05, with respect to the Chigrinov reference have been fully considered and are persuasive. The 35 USC 102 rejection of claims 20, 21, 23-30, 36 and 38 has been withdrawn.

15. Applicant's arguments filed 1/12/05 with respect to Kunihiro have been fully considered but they are not persuasive. The applicant argues that the LLC's prepared by Kunihiro must be formed between two substrate and therefore must have a thickness larger than 25 microns. The applicant also argues that Kunihiro requires azodye structures with pronounced cis-trans isomerization. However these limitations, formation on a single substrate, the thickness of the photo alignable layer or the specific dye structure, are not claimed in independent claim 20. Such limitations are only claimed in claims 34-36. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. formation on a single substrate, thickness of the photo alignable layer or the specific dye structure,) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

16. The applicant also argues that the LLC in Kunihiro is a nematic lyotropic liquid crystal and is not in isotropic phase. However Kunihiro does teach that that lyotropic liquid crystal is isotropic. See [0003] and [0040].

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole M Barreca
Examiner
Art Unit 1756

4/8/05

